



Alligator Gar Grow Fast!

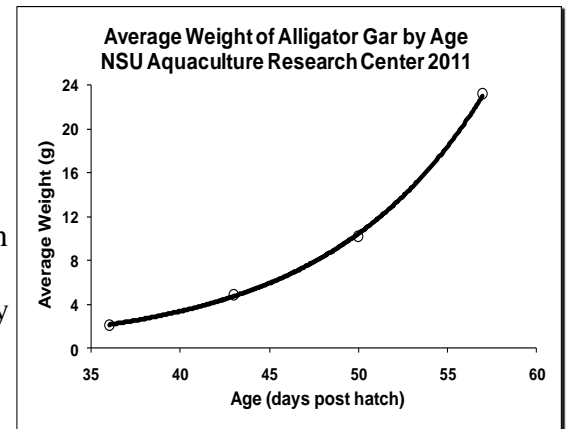
by Jan Dean

As many can attest, alligator gar can grow extremely fast. Dr. Brian Glebe from Canada's Department of Fisheries and Oceans collaborated with personnel at Natchitoches National Fish Hatchery during the summer of 2009 to gain experience with alligator gar culture as a surrogate for another gar species in Canada. Dr. Glebe, an internationally respected aquaculturist with 35 years experience, remarked that, "Alligator gar are the fastest growing fish I've seen in freshwater." He thinks that the saltwater cobia, aka ling, may have similar growth capabilities. Dr. Glebe came to Louisiana to collaborate with Dr. Julie Delabbio, Director of Northwestern State University's Aquaculture Research Center near Marco. Dr. Delabbio has been interested in gar culture for several years, and we have "loaned" her some alligator gar for research the past three years. This year's experiment involved the effect of photoperiod on gar growth. Below are some of her results for the control group exposed to a typical summer photoperiod.

Twenty gar were stocked into each tank on June 7 when they were 36 days old, and the study ran for three weeks, or until they were 57 days old. The total length increased from 7.7 to 17.3 cm in those 21 days, for an average daily gain of 3.9%. The maximum percent length increase was 4.6% per

day at age 45 days, and the maximum length increment was 5.6 mm per day at age 51 days. Average weight increased from 2.1 to 23.0 grams during the study for an average gain of an amazing 12% per day! Some other warm water fish may be gaining weight at 2-4% per day in this size range. They continued to gain weight at an ever increasing amount throughout the study, so the maximum weight gain was 2.6 grams per day at age 57 days.

We have seen high growth each year in alligator gar, and often the highest growth occurs when they are allowed to eat live food such as other fish. This growth was obtained when these gar were fed commercial feed, so it is all the more remarkable. Other stations rearing alligator gar also see phenomenal growth. These are amazing fish...for many reasons.



Freshwater Mussel Survey of the West Pearl River in Response to the Chemical Spill

By: Tony Brady

In response to the 13 August 2011, chemical spill from the Temple Island Paper Mill in Bogalusa, LA, biologists from Natchitoches National Fish Hatchery (USFWS), Baton Rouge Fish and Wildlife Conservation Office (USFWS), Louisiana State University and the Louisiana Department of Wildlife and Fisheries spent four days documenting the impact of the spill on freshwater mussels. Due to the unknown toxicity of the chemical in the water, initial mussel surveys were limited to

shoreline sampling of dead mussels that had washed ashore. Twelve areas were sampled in a 22 mile stretch of the West Pearl River starting at Crawford's Landing and going upstream. A total of 1,898 dead mussels of three species were counted from these locations. The Fragile papershell *Leptodea fragilis* consisted of 99.4% of the dead mussels counted during the shoreline surveys. As alluded to in its name, the Fragile papershell is a thin shelled species whose shell has little mass, causing the shell to float to the

surface with the body after death. The body will stay connected to the shell until the tissue connecting the body to the shell decays to the point that the shell separates from the body and sinks back to the river bottom. Thousands of disemshelled bodies were seen floating down river and hung up in downed trees along the river.

Due to the diversity of fish that were killed during this chemical spill, the authors expected to find more than three species of dead mussels. Most of the other mussel species in the West Pearl river have heavier shells that may have prevented them from floating up and washing ashore like the Fragile papershell. On 18 August, 2011, the Louisiana Department of Environmental Quality gave clearance to proceed with in-water sampling of freshwater mussels allowing survey crews to begin sampling for dead mussels that did not float up onshore. A total of seven sites were sampled to determine if there were additional mussel species affected by the chemical spill. From these seven sites, a total of 19 species were found alive including live Fragile papershell. Consistent with the shoreline surveys, the Fragile papershell consistently had the highest mortality of all the species surveyed. The average mortality rate for the Fragile papershell at these seven in-water



This sandbar was littered with dead Fragile papershell mussels after the spill.

sites was 78.9%. Empty shells were collected from 11 of the other 18 species, and these shells appeared to have been dead prior to the spill. Dr. Ken Brown's lab at Louisiana State University will be comparing mortality data from this survey against their survey from 2007 to separate natural mortality from the spill mortality. Additional surveys should be conducted up stream of the spill site to develop baseline data so sites below the spill site can be monitored in the future for delayed effects from the spill on the mussel populations in the West Pearl River.



A surviving fragile papershell leaves a trail as it move through the mud.



Five hundred live mussels composed of several species were found at one site during in water sampling.



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Before and after pictures of the lighting in the aquarium building. Not only do the new lights look better they will also save a lot of money.

Manager's Corner

By: Karen Kilpatrick

August was an interesting month at the hatchery. Having shipped out all pond fish in July due to budget cuts and drought conditions, we thought there might be a slight lull in activity. But we were wrong! End of the year reporting and three construction contracts took up any anticipated slack. The construction contracts were the remodeling of the crew room office, the pole shed, and the conversion of lighting in all buildings to energy efficient lighting. As of the end of August none of the contracts are complete, but all three were well underway and will be of great benefit to the hatchery. The crew room remodel and the lighting contracts were part of energy efforts within the Service and should provide several hundreds of dollars of savings monthly. The hatchery plans to track data over the next year to compare prior-year bills and calculate actual savings. Stay tuned for more in September as the contracts become complete and we move into the end of our fiscal year!



The pole shed is enclosed and is only waiting on electricity and to be tied into the blacktop.